

Burrrrr! Its COLD!!!!



STANDARD 3240-01 Students will observe and describe chemical and physical change.

OBJECTIVE

3240-0101

Differentiate between common chemical and physical changes.

3240-0102

Analyze factors that influence chemical and physical change.

INTENDED LEARNING OUTCOMES

- 1a. Make observations and measurements.
- 1d. Make estimations and predictions based on observations and current knowledge.
- 2d. Collect and record data using procedures designed to minimize error.



Materials

thermometer
room temperature water
1 tablespoon of Epsom salts (magnesium sulfate)
spoon
medium sized glass jar or glass beaker (needs to be glass)
pencil and paper

Procedure

1. Fill the jar or beaker with room temperature water.
2. Put the thermometer in the jar. While you are waiting to take the water temperature, put your hand on the outside of the jar and notice how cool or warm it is. Record your observation.
3. Record the temperature of the water.
4. Stir in the Epsom salts.
5. Feel the jar again. Record your observations.
6. After a couple of minutes take the temperature of the water/Epsom salt mixture.
7. Record the temperature.

Analysis and Conclusions

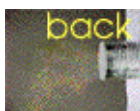
1. What is the amount of temperature difference of the water before and after adding Epsom salt?
2. Why did the temperature of the water change?
3. Does mixing Epsom salts and water represent physical or chemical change or both? **SUPPORT YOUR CONCLUSIONS WITH EVIDENCE FROM YOUR EXPERIMENT. THINK HARD!!!!**

Safety Concerns:

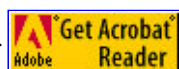


Teachers and students, you will be handling a chemical that is potentially dangerous. You will also be working with glassware. Be sure to keep all Chemical Safety Rules that are specified by your teacher and in all general laboratory experiences.

Adapted from 365 *Simple Science Experiments* by E. Richard Churchill, Louis V. Loeschig, and Muriel Mandell



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Updated August 7, 2000 by: [Glen Westbrook](#)

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